Production of Disposable IV Cannula and Catheters, Intravenous Catheter Industry, Medical Plastic Device Business

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**Introduction**

The catheter is a thin sterilized tube made from medical grade materials and can offer a broad range of medical conditions. Catheters can also be inserted into a body cavity, duct or vessel for drainage, administration of fluids or gasses. Catheters used to access for surgical instruments and also to perform a wide variety of other tasks depending upon the type of catheter.

Intravenous or IV therapy is beneficial for several conditions and medical situations including dehydration, nutrition, shock, surgery, blood transfusions, chemotherapy and medication administration.
A small tube placed into peripheral vein in order to administer medication directly into the circulation is known as a peripheral intravenous (IV) catheter. In addition to medication administration, peripheral intravenous (IV) catheters are used to withdraw blood from veins for testing. Advanced peripheral intravenous (IV) catheters are equipped with additional safety features to avoid needle stick injuries. Due to their direct contact with the circulatory system, peripheral intravenous (IV) catheters are prepared with nonirritant material such as silicone, which do not have side effects even when peripheral intravenous catheters are left in contact with the circulatory system for several months or weeks.
The Indian market for peripheral intravenous catheters (PIVCs) is split up into 2 segments: conventional PIVC and safety PIVC. PIVCs are inserted in veins and arteries. An arterial access site is utilized in patients that require blood pressure monitoring. Firmer catheters are preferred for arterial access. A venous access site is utilized for infusing fluids, providing antibiotic treatment and other standard procedures. In 2016, safety PIVCs represented 12% of the total market for PIVCs, with the remaining balance represented by conventional PIVCs. Growth in the unit sales of advanced materials PIVCs is expected to drive gains in the share of safety PIVCs over the forecast period.
Peripheral intravenous (IV) catheters are commonly used for vascular access. Medicine administered through a peripheral intravenous (IV) catheter enters directly into the blood flow and thus shows rapid action. With the advantage of rapid action, peripheral intravenous (IV) catheters are commonly used in emergency patients, surgical patients and patients suffering from vomiting, pediatric patients, unconscious patients and the elderly population, who face difficulty in swallowing medicines. Factors such as aging of population and advancement in surgical and treatment technologies resulting in increased surgical procedures are driving the global peripheral intravenous (IV) catheters market towards growth.
On the other hand, factors such as high cost of closed catheters, painful insertion and need of trained medical professional to use peripheral intravenous (IV) catheters are restraining the growth of the global peripheral intravenous (IV) catheters market. Based on the type of catheters commercially available, the global peripheral intravenous (IV) catheters market is segmented as follows:

- **Integrated/Closed catheters**
- **Peripheral insertion catheters**

Use of integrated/closed intravenous (IV) catheters is rapidly increasing over conventional intravenous (IV) catheters due to capacity of integrated catheters to apply power while injecting medicine in the circulation. Integrated intravenous (IV) catheters are used for injecting contrast media into the circulation system prior to computed tomography (CT) imaging.
On the other hand, high cost of the integrated peripheral intravenous (IV) catheters is restraining the growth of integrated peripheral intravenous (IV) catheters market in economically backward markets.

The increasing incidences of trauma (accidents and burns) cases, the prevalence of chronic diseases, and cases of hospital-acquired infections is attributing to the growth of the global IV catheters market.

The global peripheral intravenous catheter market is expected to observe steady growth in 2016, reaching beyond US$ 3.8 Bn by 2016 end. Wide adoption of catheterisation techniques in patient examination, diagnosis, and treatment is anticipated to fuel the demand for PIVC. Rising disease prevalence will play a key role in driving the market growth. North America is likely to remain the largest market; Asia Pacific is expected to emerge at the fastest rate.
Soaring disease prevalence will remain a prominent factor driving the demand for catheterisation, in turn pushing the market for PIVC. Apart from its usage in drug administration, increasing adoption of peripheral intravenous catheter in body fluid collection during a patient’s physical examination, is also identified to be a key driver to market growth. Prevalence of infections and epidemics are expected to further spur the demand for catheters in hospitals, clinics, ambulatory surgical centres, home healthcare units, and other healthcare centres. In addition to constantly enhancing healthcare infrastructure, the healthcare spending of consumers is also on the rise, which will favour the market growth.
Global Catheter Market Segmentation, By Product Type

Catheters Market, By Product Type

Cardiovascular Catheter
- Electrophysiology Catheters
- PTCA balloon catheters
- IVUS catheters
- PTA balloon catheters
- Others

Neurovascular Catheters

Specialty Catheters
- Wound/surgical drain
- Oximetry
- Thermodilution
- IUI catheters

Intravenous Catheters
- Central venous catheters
- Peripheral venous catheter

Urological Catheters
- Dialysis catheter
- Urinary catheter
By product type, the global peripheral intravenous catheters market is segmented into short PIVC and integrated/closed PIVC. Among these, integrated/closed PIVC segment is expected to register fastest CAGR of 8.9% during the forecast period. Short PIVC segment is expected to contribute a maximum share to the global peripheral intravenous catheters market. Non-ported PIVC product type sub-segment is expected to register fastest CAGR over the forecast period.

Globally, catheters market is driven mainly due to the continuous rise in population of cardiovascular disorders patients across the world. Diabetes, tachycardia, hypertension are no more rare among individuals.
At present, each country has shown the marked rise in diabetes and hypertension patients supported by various lifestyle factors which include smoking, drinking, and sedentary lifestyle. These factors increasing demand for minimally invasive surgeries which propel the growth of global catheter market. In addition, growing aging population, favorable reimbursement policies and increasing demand for advanced urinary catheters are major factors leading to increased demand for urinary catheters, thereby fuelling the growth of the catheter market.
U.S. Catheters Market size, by Product, 2012-2024 (USD Mn)
**Cannula** is a thin tube which is inserted into the human body veins or body cavity to introduce medication, removal of fluid or to insert the surgical instrument. Cannula is usually surrounded by the trocar needle with inner and outer surface, which allows puncturing of the body in order to get enough space, it is also named as intravenous IV cannula. The normal cannulas size mainly ranges around 14 – 24 gauge. There are various types of cannula such as venous cannula, arterial cannula, nasal cannula or an oral-nasal cannula. The venous cannula is used for inserting in veins for the removal of blood samples and for administering medicines.
An arterial cannula is used to insert in the artery of human body commonly in the radial artery during major operations such as bypass surgery and are also used to measure beat to beat blood pressure this is a painful procedure that leads to stress and anxiety. The nasal cannula or the oral nasal cannula used in the insertion into nostrils and mouth and also for delivering oxygen or to measure the airflow into the nose.

Uses

A venous cannula is inserted into a vein, primarily for the administration of intravenous fluids, obtaining blood samples and administering medicines. An arterial cannula is inserted into an artery, commonly the radial artery, and is used during major operations and in critical care are as to measure beat-to-beat blood pressure and to draw repeated blood samples.
IV Cannula is amongst the most extensively used medical disposables. Healthcare professionals represent the largest end-use market for cannulae. Worldwide market for IV Cannula is driven by an aging population and related rise in healthcare demand. There are many manufacturer of IV Cannula in the country, out of which about 5-6 units are under small-scale sector. The Present demand of Disposable IV Cannula is being adequately met by indigenous production. In increasing awareness in health care and like diseases and improvement in per capita income is expected to create further growth in demand of disposable IV Cannula.
IV Cannula have lower coefficient of thermal expansion and hence have greater accuracy. It is unbreakable. The IV cannula market is estimated to grow at a CAGR of 6.2% from 2017 to 2022 to reach USD 13.63 Billion by 2022. The base year considered for the study is 2017 and the forecast for the market size is provided for the period between 2017 and 2022. The global peripheral intravenous catheter market was valued at US$ 3,500 Mn in 2014. North America was the largest market for peripheral intravenous catheters, accounting for over 45% revenue share of the overall market in 2014, followed by Europe with around 27% share.
# Cannulae

## Demand: Past and Future

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<td>2024-25</td>
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The demand for peripheral I.V. catheters is increasing, due to increasing prevalence of chronic and lifestyle associated diseases. The prevalence of chronic diseases, such as heart disease, cancer, stroke, respiratory disease and diabetes, is increasing due to the alteration in lifestyle and lack of access to preventive care.

The increasing aging population is propelling the growth of the global peripheral I.V. catheter market, as the geriatric population is more susceptible to diseases, sickness and syndromes, due to less regenerative abilities. This leads to the increased demand for drugs, thus leading to the growth in adoption of peripheral I.V. catheters for delivering drugs, supplying nutrients and for the treatment of various diseases. Moreover, the increase in healthcare expenditure leads to an increased affordability and accessibility of the treatment for various conditions.
Machinery Photographs

Hypodermic Needle Assembly Machine

Needle Machinery
IV Cannula Assembly Line

Blister Packing Line
## Project at a Glance

### PROJECT AT A GLANCE

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## Project at a Glance

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## Project at a Glance

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## Project at a Glance

### BEP

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<tr>
<td>Total BEP (% of Installed Capacity)</td>
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<td>Fixed Assets Coverage Ratio ( No. of times )</td>
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1. What is IV Cannula and Catheters Manufacturing industry?

2. How has the IV Cannula and Catheters Manufacturing industry performed so far and how will it perform in the coming years?

3. What is the Project Feasibility of IV Cannula and Catheters Manufacturing Plant?

4. What are the requirements of Working Capital for setting up IV Cannula and Catheters Manufacturing plant?
5. What is the structure of the IV Cannula and Catheters Manufacturing Business and who are the key/major players?

6. What is the total project cost for setting up IV Cannula and Catheters Manufacturing Business?

7. What are the operating costs for setting up IV Cannula and Catheters Manufacturing plant?

8. What are the machinery and equipment requirements for setting up IV Cannula and Catheters Manufacturing plant?
9. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up IV Cannula and Catheters Manufacturing plant?

10. What are the requirements of raw material for setting up IV Cannula and Catheters Manufacturing plant?

11. Who are the Suppliers and Manufacturers of Raw materials for setting up IV Cannula and Catheters Manufacturing Business?

12. What is the Manufacturing Process of IV Cannula and Catheters?
13. What is the total size of land required for setting up IV Cannula and Catheters Manufacturing plant?

14. What will be the income and expenditures for IV Cannula and Catheters Manufacturing Business?

15. What are the Projected Balance Sheets of IV Cannula and Catheters Manufacturing plant?

16. What are the requirement of utilities and overheads for setting up IV Cannula and Catheters Manufacturing plant?

17. What is the Built up Area Requirement and cost for setting up IV Cannula and Catheters Manufacturing Business?
18. What are the Personnel (Manpower) Requirements for setting up IV Cannula and Catheters Manufacturing Business?

19. What are Statistics of Import & Export for IV Cannula and Catheters?

20. What is the time required to break-even of IV Cannula and Catheters Manufacturing Business?

21. What is the Break-Even Analysis of IV Cannula and Catheters Manufacturing plant?

22. What are the Project financials of IV Cannula and Catheters Manufacturing Business?
23. What are the Profitability Ratios of IV Cannula and Catheters Manufacturing Project?

24. What is the Sensitivity Analysis-Price/Volume of IV Cannula and Catheters Manufacturing plant?

25. What are the Projected Pay-Back Period and IRR of IV Cannula and Catheters Manufacturing plant?

26. What is the Process Flow Sheet Diagram of IV Cannula and Catheters Manufacturing project?
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28. What is the Market Study and Assessment for setting up IV Cannula and Catheters Manufacturing Business?

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       1.1.4. Map
       1.1.5. Best Season of Ahmedabad
       1.1.6. Economy
       1.1.7. Major Industries
       1.1.8. Transportation and Communications

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6. NEEDLE GAUGE COMPARISON CHART
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7. B.I.S. SPECIFICATIONS
7.1. IS: 6999 – 1973 SPECIFICATION FOR CANNULA, ARTIFICIAL INSEMINATION
7.2. IS: 7981 (PART II) – 1976 SPECIFICATION FOR INSTRUMENTS, TUBOPLASTY
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7.4. IS: 8825 – 1978 SPECIFICATION FOR CANNULA, SUCTION IRRIGATION WITH
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9.2. EXPORT: ALL COUNTRIES
9.3. IMPORT: ALL COUNTRIES
9.4. IMPORT: ALL COUNTRIES

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10.6.1. Name of Company with Contact Details
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10.7.4. Growth in Assets & Liabilities
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